



**US Army Corps  
of Engineers®**  
Engineer Research and  
Development Center

## Prado Spillway Study

### Description

A physical model investigation was conducted to develop a spillway discharge rating curve of Prado Dam, California. Additionally, current directions, velocities, and wave/surge magnitudes were evaluated, along with the assessment of scour and deposition in the tailrace.

### Issue

The Prado Dam is located about 40 miles southeast of Los Angeles on the Santa Ana River, about 30 river miles from the Pacific Ocean. The dam was completed in 1941 and controls runoff from a drainage area of 2255 square miles. It creates a flood control reservoir that stores water only during storm events and is used at a limited capacity for water conservation.



**Physical model of Prado Dam, CA**

### Products

At the request of the U.S. Army Engineer District, Los Angeles, a 1:50 scale physical model was designed and constructed at the U.S. Army Engineer Research and Development Center by the Coastal and Hydraulics Laboratory. The model reproduces the spillway crest, spillway channel, spillway chute and flip bucket. The model permitted evaluation and modification to the spillway approach channel, spillway abutments, weir crest, spillway chute and scour protection.

### Benefits

Model results provided a more efficient spillway design and identified potential for severe scour against the spillway cutoff wall and the right training wall during PMF conditions. A protective apron around the training wall and against the cutoff wall was recommended to alleviate the scour potential.

### Sponsors

U.S. Army Engineer District, Los Angeles.

### Point of Contact

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